

1 What is claimed is:

2 1. A method for concurrently processing digital video frames and high resolution  
3 still images in burst mode, comprising:

4 acquiring with high priority video frames and high resolution still images in burst  
5 mode from one or more image sensors;

6 storing with high priority the video frames and the high resolution still images in  
7 raw format in a memory during acquisition of the high resolution still images in burst  
8 mode;

9 processing with low priority the video frames stored in the memory using a video  
10 pipeline; and

11 processing with low priority the high resolution still images acquired during the  
12 burst mode using a high resolution still image pipeline, wherein the high resolution still  
13 image pipeline runs concurrently with the video pipeline.

14 2. The method of claim 1, wherein the acquiring step includes acquiring the video  
15 frames and the high resolution still images in real time.

16 3. The method of claim 1, wherein the storing step includes storing the video frames  
17 and the high resolution still images in real time.

18 4. The method of claim 1, further comprising downsampling the high resolution still  
19 images to be inputted into the video pipeline.

20 5. The method of claim 1, wherein the processing the high resolution still images  
21 step includes processing the video frames and the high resolution still images into a  
22 standard format by an image/video transcoding agent.

23 6. The method of claim 1, wherein the processing the video frames step comprises:  
24 downsampling and demosaicing the video frames; and  
25 color correcting the video frames.

26 7. The method of claim 1, wherein the processing the high resolution still images  
27 step comprises:

28 downsampling and demosaicing the high resolution still images using complex  
29 demosaicing algorithms; and

30 color correcting the high resolution still images using complex color correction  
31 algorithms.

32 8. The method of claim 1, further comprising compressing the video frames and the  
33 high resolution still images.

34 9. A joint video and still image pipeline for a video camera system, comprising:

1 one or more image sensors capable of concurrently acquiring with high priority  
2 video frames and high resolution still images in burst mode;

3 a sensor controller capable of storing with high priority the video frames and the  
4 high resolution still images acquired during the burst mode in raw format into a memory;  
5 and

6 one or more processors capable of concurrently processing with low priority the  
7 video frames and the high resolution still images acquired during the burst mode, wherein  
8 the video frames are processed using a video pipeline, and the high resolution still images  
9 are processed using a high resolution still image pipeline, and wherein the video pipeline  
10 runs concurrently with the high resolution still image pipeline.

11 10. The joint video and still image pipeline of claim 9, wherein the high resolution  
12 still images are downsampled to be inputted into the video pipeline.

13 11. The joint video and still image pipeline of claim 9, further comprising an  
14 image/video transcoding agent capable of processing the video frames and the high  
15 resolution still images into standard format.

16 12. The joint video and still image pipeline of claim 9, wherein the video frames and  
17 the high resolution still images are acquired and stored in real time with high priority.

18 13. The joint video and still image pipeline of claim 9, wherein the video frames and  
19 the high resolution still images acquired during the burst mode are processed with low  
20 priority.

21 14. The joint video and still image pipeline of claim 9, wherein the processors are  
22 selected from a microprocessor, an application specific integrated circuit (ASIC), and a  
23 digital signal processor.

24 15. The joint video and still image pipeline of claim 9, wherein the processors  
25 downsample, demosaic, and color correct the video frames.

26 16. The joint video and still image pipeline of claim 9, wherein the processors  
27 downsample, demosaic, and color correct the high resolution still images using complex  
28 algorithms.

29 17. A computer readable medium providing instructions for concurrently processing  
30 digital video frames and high resolution still images in burst mode, the instructions  
31 comprising:

32 acquiring with high priority video frames and high resolution still images in burst  
33 mode from one or more image sensors;

1 storing with high priority the video frames and the high resolution still images in  
2 raw format in a memory during acquisition of the high resolution still images in burst  
3 mode;  
4 processing with low priority the video frames stored in the memory using a video  
5 pipeline; and  
6 processing with low priority the high resolution still images acquired during the  
7 burst mode using a high resolution still image pipeline, wherein the high resolution still  
8 image pipeline runs concurrently with the video pipeline.

9 18. The computer readable medium of claim 17, wherein the instructions for acquiring  
10 include instructions for acquiring the video frames and the high resolution still images in  
11 real time.

12 19. The computer readable medium of claim 17, further comprising instructions for  
13 downsampling the high resolution still images to be inputted into the video pipeline.

14 20. The computer readable medium of claim 17, wherein the instructions for  
15 processing the high resolution still images include instructions for processing the video  
16 frames and the high resolution still images into a standard format by an image/video  
17 transcoding agent.